

**MISSISSIPPI
STORM WATER POLLUTION
PREVENTION PLAN (SWPPP)
GUIDANCE MANUAL
FOR INDUSTRIAL FACILITIES**



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This manual is derived from Chapter 2 of EPA’s “Storm Water Management For Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices,” September 1992. It was edited by Mississippi Office of Pollution Control staff members Kenneth LaFleur and Louis Lavallee (7/92), Kenneth LaFleur, Adam Smith and Jim Morris (9/05) and most recently by Jim Morris and Dmitriy Asanov (12/12).

GUIDANCE FOR STORM WATER POLLUTION PREVENTION PLAN (SWPPP) DEVELOPMENT

(Bordered texts are permit requirements)

INTRODUCTION

This manual will help you evaluate your site for actual and potential pollution of storm water runoff, select needed management controls and prepare a Storm Water Pollution Prevention Plan (SWPPP). This manual is presented as a user's guide for SWPPP requirements. The sequence of this manual follows the requirements found in Mississippi's Baseline General Storm Water Permit MSR00. Baseline General Permit requirements are found in the shaded, bordered texts. This manual may also be used as an aid in developing SWPPPs that may be required by other individual or general permits.

Related permit topics, that are not addressed in this manual, include: conditional exemption of storm water permitting – ACT 2, T-6, who must sign the SWPPP - ACT 14, T-9, making changes to the SWPPP - ACT 7, S-1 (4), and additional SWPPP requirements for SARA Title III, Section 313 facilities with water priority chemicals - ACT 6.

Worksheets that may help in plan development are located on pages 29 through 34 of this manual and may be photocopied.

Steps involved in a successful plan include: **1- assessment - potential pollutant sources; 2- storm water management controls - identification & implementation; 3- site inspection and SWPPP evaluation; 4- recordkeeping and reporting.**

ASSESSMENT - POTENTIAL POLLUTANT SOURCES

Description of Potential Pollutant Sources Baseline Permit, ACT 5, T-2.
Each plan shall identify all activities and significant materials, which may potentially pollute storm water discharges....

This is done through submitting:

A Narrative Description of Significant Materials Baseline Permit, ACT 5, T-2 (1)
A narrative description of significant materials that are exposed to storm water; method of onsite material treatment, storage or disposal; management practices employed to minimize contact of these materials with storm water runoff; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

A material inventory of the site should be done - that is, look for materials that have been and are exposed to storm water and the measures that have been taken to prevent storm water contacting these materials. Maintaining an up-to-date material inventory is an efficient way to identify what materials are handled onsite and which may contribute to storm water contamination problems. Focus on areas where materials are stored, processed, transported or transferred. Check storage tanks and piping for leaks or spills. Observe loading or unloading operations to see whether industrial materials are exposed to storm water. Are there unsealed dumpsters or disposal areas where waste materials are exposed to rain? Pay attention to material handling equipment, including vehicles and pallets. Pay close attention to areas where you store or dispose of industrial materials, making sure there are no openings, holes or leaks that allow storm water contact. Finally, consider possible emissions from roof air vents where particles are emitted and are likely to fall within your drainage areas. All potential pollutant sources should be located on a site map.

Worksheet #2a may be used to compile a list of exposed significant materials.

"Significant materials," defined in 40 CFR 122.26(b)(12), include, but are not limited to: raw materials; fuels; materials such as solvents, detergents and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have a potential to be released with storm water discharges.

The location and amounts of these significant materials should be documented. The list of significant materials exposed must be accurate and management practices must be kept current.

A Monthly Updated List of Significant Spills and Leaks of Toxic or Hazardous Pollutants Baseline Permit, ACT 5, T-3 (4)
A monthly updated list of significant spills and leaks of toxic or hazardous pollutants that have occurred at the facility.

What are significant spills or leaks? EPA has defined "significant spills" to include releases within a 24-hour period of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act and Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Reportable quantities are set amounts of substances in pounds, gallons, or other units and are listed in 40 CFR Part 117 and 40 CFR Part 302. Releases are defined to include any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.

Worksheet #2b may be used to list leaks and spills.

Documenting spills and leaks can minimize incident recurrence, initiate appropriate cleanup activities, and comply with legal requirements. Records of spills should include the following, as appropriate:

- The date, weather conditions, duration, cause, environmental problems, response procedures, parties notified, recommended revisions to the SWPPP and operating procedures, and/or equipment needed to prevent recurrence.

An Updated Summary of All Storm Water Sampling Data Baseline Permit, ACT 5, T-3 (5)
If available, according to ACT 7, S-1 (8), any sampling data must be submitted within 90 days of sampling

Sampling data can identify the types, amounts, and sources of storm water pollution. Therefore, any storm water sampling data must be provided to MDEQ. The Baseline Storm Water General Permit requires sampling only if the facility is a SARA Title III, Section 313 facility that has had a significant spill or a facility with coal piles (see General Permit - ACT 9). In addition, MDEQ may require storm water sampling from a permitted facility that discharges to a 303(d) listed waterbody for which a wasteload allocation for a specific parameter(s) has been established by a Total Maximum Daily Load (TMDL). All required storm water sampling must be in accordance with the protocol established in 40 CFR Part 136. Sampling location(s) should be identified on the facility site map and the collection procedures used identified.

An industry is subject to SARA Title III (also known as Section 313 of EPCRA) reporting requirements if it meets ALL of the following criteria:

- (1) The facility has 10 or more full-time employees OR the total number of hours worked by all employees is 20,000 hours or more.
- (2) The facility's primary SIC code is in one of the following categories:
 - SIC major group codes 20 through 39
 - SIC code 10 Metal Mining (except 1011, 1081, and 1094)
 - SIC code 12 Coal Mining (except 1241)
 - SIC codes 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce)
 - SIC code 4953 (limited to facilities regulated under RCRA, subtitle C, 42 U. S. C. section 6921 et seq.)
 - SIC code 5169 Chemical and Allied Products, Not Elsewhere Classified
 - SIC code 5171 Petroleum Terminals and Bulk Stations
 - SIC code 7389 Business Services, Not Elsewhere Classified (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis).
- (3) The facility exceeds any of the following thresholds for a chemical or chemical category in the EPCRA Section 313 chemical list:
 - (a) manufactures or processes more than 25,000 pounds of the chemical in the calendar year; or
 - (b) otherwise uses more than 10,000 pounds of the chemical in the calendar year.

A facility that meets these criteria must file a Toxic Chemical Release "Form R" report with the U. S. EPA. The facility must also file a copy of the report with MDEQ. (The original must be filed with EPA.)

The facility must file a Form R report for each EPCRA Section 313 chemical that exceeded the manufacture/process threshold or the "otherwise use" threshold.

On the Form R, the facility must identify any on-site releases of the chemical to air, land, and water and any off-site transfers of the chemical to a POTW or other facility for the purpose of disposal, treatment, energy recovery, or recycling.

A simplified report, known as a Form A or "alternate reporting threshold" report, may be filed instead of a Form R report if certain criteria are met.

Specific questions in regard to EPCRA Section 313 reporting should be directed to John David Burns (601 961-5005) at MDEQ's Environmental Resource Center.

If the facility reported to MDEQ a release of a water priority chemical to storm water, then the permittee is required to monitor annually for pH, TSS, and any water priority chemical that the permittee reported under Section 313 of EPCRA. If the Form R (or Form A) indicates no release of water priority chemicals to storm water, monitoring may be discontinued.

Water priority chemicals are those chemicals listed under EPCRA section 313 that are also: (1) listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides and phenols), or Table V (certain toxic pollutants and hazardous substances); (2) are listed as hazardous substances pursuant to section 311(b)(2)(A) of the Clean Water Act at 40 CFR 116.4; or (3) are pollutants for which EPA has published acute or chronic toxicity criteria.

**A Site Map
Baseline Permit, ACT 5, T-4 (6)**

The facility site map must include:

- **Surface water bodies, including receiving stream name(s)**
- **Drainage area of each storm water outfall identified by number**
- **Location and description of existing structural control measures used to reduce pollutants in storm water runoff**

Other items to be included on the site map:

- **Direction of flow for each area (designated by arrow)**
- **Location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff**
- **Location of any storm water treatment activities**
- **Location of any storm drain inlets**
- **Location of industrial activities, such as:**
 - **Fuel storage and dispensing locations**
 - **Vehicle/equipment repair, maintenance and cleaning areas**
 - **Materials storage and handling areas**
 - **Loading/unloading areas**
 - **Process or manufacturing areas**
- **Location of housekeeping practices**
- **Storm water conveyances (ditches, pipes, & swales)**
- **Any post-construction control measures**

Locating these features on the site map will help assess where potential storm water pollutants are located and identify the best opportunities for storm water pollution prevention or control.

An example site map (Figure 1) is located page 14.

**A Topographic Map
Baseline Permit, ACT 5, T-5 (7)**

The topographic map must extend at least 1/2 mile beyond the facility property boundaries and may be part of the above required site map.

Topographic maps (quadrangle maps) can be obtained from the Office of Geology at 601-961-5523. A topographic map can help identify the drainage areas for each outfall as well as a rough study of storm water flow during a rain event.

**A Prediction of the Direction of Flow, and Types of Pollutants
Baseline Permit, ACT 5, T-5 (8)**

A prediction of the direction of flow, and types of pollutants likely to be present for each area of the facility generating storm water discharges with a reasonable potential for containing significant amount of pollutants.

This can be demonstrated on the required site map.

STORM WATER MANAGEMENT CONTROLS - IDENTIFICATION & IMPLEMENTATION

Storm Water Management Controls Baseline Permit, ACT 5, T-3

The owner or operator shall describe appropriate storm water management controls addressing identified potential pollution sources and implement such controls. The description shall include a schedule for implementing the following minimum components:

- **Pollution Prevention Manager/Committee [ACT 5, T-6 (1)]**
- **Risk Identification and Assessment/Material Inventory. [ACT 5, T-6 (2)]**
- **Sediment and Erosion Prevention[ACT 5, T-6 (3)]**
- **Preventive Maintenance[ACT 5, T-6 (4)]**
- **Good Housekeeping [ACT 5, T-6 (5)]**
- **Spill Prevention and Response Procedures[ACT 5, T-7 (6)]**
- **Employee Training [ACT 5, T-7 (7), also ACT 12]**
- **Illicit Connections Testing and Certification[ACT 5, T-7 (8)]**
- **Visual Site Inspections [ACT 5, T-8 (9)]**
- **Storm Water Management [ACT 5, T-9 (10)]**
- **Non-Storm Water Discharge Management [ACT 5, T-3 (10)]**

Once you have identified and assessed potential and existing sources of contamination to storm water, the next step is to select the proper measures or BMPs that will eliminate or reduce pollutant loadings in storm water. The focus of MDEQ's storm water general permits is on preventative BMPs that limit the release of pollutants into storm water discharges. A BMP (defined at 9/9/92 [Federal Register](#) page 41319) is a technique, process, activity or structure used to reduce the pollutant content of a storm water discharge. BMPs can be inexpensive and relatively simple such as scheduled sweeping of a material transfer area or as sophisticated as a process modification. BMPs can be just about anything that "does the job" of preventing pollutants from entering the environment. They may also include existing measures such as product loss prevention, accident and fire prevention, and worker health and safety. For a list common BMPs see pages 15 – 28.

Good storm water management includes reducing material exposure to storm water and directing storm water away from contaminated areas. A facility may already have storm water management practices under other regulations. Relevant elements of other plans may be incorporated into the SWPPP such as Occupation Safety and Health Administration (OSHA) or Spill Prevention Control and Countermeasure (SPCC) plans.

In addition, the SWPPP must describe any storm water treatment that is provided. For instance, the treatment of storm water is often accomplished through holding in a detention pond, which allows for settling of inorganic solids and partial removal of organic contaminants. Pond dimensions and design criteria should be included in the SWPPP.

Implementing a plan involves:

- Developing a schedule for implementation. For example, a schedule may include a deadline for implementing better housekeeping measures.
- Assigning specific individuals responsibility for implementing aspects of the plan and/or monitoring.
- Ensuring management approves your implementation schedule and strategy. It is a good idea to schedule regular times for reporting progress to management.

Worksheet #3a may be used to list existing BMPs, proposed BMPs and implementation schedules.

**Pollution Prevention Manager/Committee
Baseline Permit, ACT 5, T-6 (1)**

The SWPPP shall specify individual(s) responsible for developing the SWPPP and assisting the facility manager in its implementation, maintenance, and revision.

Responsibilities of the manager/committee include identifying pollutant sources and risks, choosing BMPs, implementing the BMPs, and assessing the plan's effectiveness. The manager must keep current records on all plant operations and change the SWPPP as needed. While the designated manager/committee develops and implements the SWPPP, the plant management is ultimately responsible for permit compliance. Where a team is involved, the responsibilities or duties of specific team members should be clearly defined. **Worksheet #1**, a SWPPP cover sheet, can be used to list the manager/committee.

**Risk Identification and Assessment/Material Inventory
Baseline Permit, ACT 5, T-6 (2)**

The SWPPP shall assess the pollution potential of various sources at the facility including:

- **Loading and unloading operations**
- **Outdoor storage**
- **Manufacturing or processing activities**
- **Significant dust or particulate generating processes**
- **On-site waste disposal practices.**

Once the pollutant sources are identified, the next step is to evaluate the pollutant potential of the various sources. With this information, you can select the most appropriate BMP to control pollution. Here is an example of how one might assess a site problem:

Used oil filters are currently exposed to storm water. No management practices are in place and runoff contains a significant amount of oil and grease. Therefore, covered storage shall be implemented to prevent oil pollution.

**Sediment and Erosion Control
Baseline Permit, ACT 5, T-6 (3)**

The SWPPP shall identify areas with a high potential for soil erosion, and specify prevention measures to limit erosion.

Soil erosion can be controlled with appropriate BMPs. For information concerning erosion and sediment controls please access MDEQ's "Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas (Three Volumes)" at:

http://deq.state.ms.us/MDEQ.nsf/page/NPS_PlanningandDesignManual2ndEd_Vol1?OpenDocument or MDEQ's SWPPP guidance manual at:

[http://www.deq.state.ms.us/MDEQ.nsf/pdf/epd_baseline_guidance/\\$File/baseline_guidance.pdf?OpenElement](http://www.deq.state.ms.us/MDEQ.nsf/pdf/epd_baseline_guidance/$File/baseline_guidance.pdf?OpenElement)

Both manuals can be obtained by calling MDEQ at 601/961-5171. If a land disturbance is 5 acres or greater, or part of a larger common plan of development or sale that will disturb 5 or more acres then a facility must submit a CNOI for coverage under the State's Large Construction Storm Water General Permit. If a land disturbance is 1 acre to less than 5 acres, or is part of a larger common plan of development or sale that will disturb 1 to less than 5 acres, then a facility must comply with the requirements of the State's Large Construction Storm Water General Permit. For more information on construction permitting requirements call MDEQ at 601/961-5171 or visit MDEQ's web site at http://www.deq.state.ms.us/MDEQ.nsf/page/epd_epdgeneral?OpenDocument

**Preventive Maintenance
Baseline Permit, ACT 5, T-6 (4)**

A preventive maintenance program shall involve inspection and maintenance of storm water management devices (cleaning oil/water separators, catch basins, etc.) and the inspection and testing of equipment to preclude breakdowns or failures that may cause pollution.

Inspections could uncover cracks or slow leaks, which might cause breakdowns or failures resulting in discharges. Adjustments, lubrication, repair or replacement of equipment may prevent this. Preventative maintenance includes:

- identifying equipment, systems, and areas to be inspected, including pipes, pumps, storage tanks and bins, pressure vessels, pressure release valves, process and material handling equipment, and storm water management devices, such as oil/water separators or catch basins;
- scheduling periodic inspections or tests of equipment and systems;
- regularly adjusting, repairing or replacing equipment and systems; and
- maintaining complete records on inspections, equipment, and systems.

**Good Housekeeping
Baseline Permit, ACT 5, T-6 (5)**

Facility shall be clean and orderly.

Poor housekeeping can result in storm water contamination. A clean and orderly work area reduces the potential of accidental spills caused by mishandling of chemicals and equipment and can also reduce safety hazards to plant personnel. A well-maintained material and chemical storage area is an important prevention measure. Simple procedures that promote good housekeeping are improved operation and maintenance of industrial machinery and processes, routine and regular clean-up schedules, organized work areas, and employee education. **Good housekeeping BMPs include:**

- maintaining dry, clean floors and ground surfaces;
- regularly disposing garbage and waste material;
- providing adequate aisle space for material transfer and inspections;
- storing containers, drums, and bags away from direct traffic routes;
- storing containers to prevent corrosion by contact with moisture
- assigning responsibility for hazardous material to trained people;
- instituting a shelf-life program to reduce material waste;
- discussing good housekeeping at employee meetings/training sessions;
- publicizing pollution prevention concepts through posters;
- updating bulletin boards with good housekeeping procedures.

**Spill Prevention and Response Procedures
Baseline Permit, ACT 5, T-7 (6)**

The SWPPP shall clearly identify potential spill areas and their drainage points. The plan should specify material handling procedures and storage requirements. Procedures for cleaning up spills shall be identified and made available to the appropriate personnel. The necessary clean up equipment should be available to personnel.

Avoiding spills and leaks is preferable to cleaning them up, not only from an environmental standpoint, but also for economic reasons. If the facility already has a spill prevention and response plan, it should be evaluated, revised as

needed, and incorporated into the SWPPP.

The site map should show areas with high material spill potential, such as:

- loading and unloading areas;
- waste disposal activities;
- dust or particulate generating processes;
- process activities;
- storage areas.

The integrity of containers, form of the chemical being transferred, design of the transfer area, and procedures for loading and unloading should be considered. Evaluate all equipment, such as barges, railroad cars, tank trucks, and front-end loaders.

Indoor areas may contaminate storm water if drains are connected to the storm sewer. If drains cannot be sealed, process or storage areas should be evaluated for the adequacy of spill control structures and housekeeping procedures used.

Through the process of developing various spill scenarios, ideas for eliminating or minimizing the spill or its impact will emerge. Projecting possible spill material and volume is critical to developing the correct response procedures for a particular area. **The following are recommended activities or alterations that may reduce spill potential.**

- Identify all chemical substances present in the workplace. Keep the Material Safety Data Sheet (MSDS) for each chemical used.
- Develop ways to recycle, reclaim and/or reuse process materials to reduce the volume brought to the facility.
- Adopt effective housekeeping practices.
- Adopt a materials flow/plant layout plan (i.e., do not store bags that are easily punctured near high traffic areas where they may be hit by moving equipment or personnel).
- Perform regular visual inspections and preventive maintenance.
- Label all containers to show the name and type of substance, stock number, expiration date, health hazards, suggestions for handling, and first aid information, as found on the MSDS.
- Clearly mark the hazardous materials that require special handling, storage, use, and disposal.
- Install leak detection, overflow controls, and diversion berms.
- Disconnect processing area drains that lead to the storm sewer provided such action does not create a health hazard.
- Use filling procedures for tanks and equipment that minimize spills.
- Use material transfer procedures that reduce leaks or spills.
- Substitute less or non-toxic materials for toxic materials.
- Ensure appropriate security.

In the event that spill prevention fails, a swiftly executed response may prevent contamination of storm water. There should be clear, concise step-by-step instructions for responding to a spill. Personnel with proper training and authority should always be available to respond to spills.

The spill response plan should list:

- person(s) responsible for spill response;
- safety measures;
- procedures for notifying authorities (police, fire, hospital, city sewer treatment plant);
- spill containment, diversion, isolation, cleanup;
- safety equipment such as respirators, eye guards, protective clothing, fire extinguisher, and two-way radios;
- cleanup equipment such as booms, absorbents, containers, etc.

Following any spill, evaluation of whether the prevention plan was successful or unsuccessful and how it might be improved should be done.

<p>Employee Training Baseline Permit, ACT 5, T-7 (7), also ACT 12, S-1 & S-2</p>
<p>The SWPPP shall specify periodic training for personnel that are responsible for implementing and/or complying with the requirements of the SWPPP. Training shall at a minimum include the plan's goals and other components identified in ACT 12.</p>

Properly trained personnel are more capable of preventing spills, responding safely and effectively to accidents, recognizing potential storm water contamination, installing, maintaining and inspecting BMPS and following permit conditions.

Worksheet #3b may be used to describe your training program.

<p>Illicit Connections Testing and Certification Baseline Permit, ACT 5, T-7 (8)</p>		
<p>The owner or operator shall certify that storm water discharges have been tested for the presence of non-storm water discharges. The certification shall include:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> - Test Method(s) - Result(s) </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> - Observation Point(s) - Date(s) </td> </tr> </table>	<ul style="list-style-type: none"> - Test Method(s) - Result(s) 	<ul style="list-style-type: none"> - Observation Point(s) - Date(s)
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A certification form is provided as **Worksheet #2c**. Non-storm water discharges include process water, non-contact cooling water, vehicle wash water, or sanitary wastes. Non-storm water discharges may be required to obtain an NPDES permit. See Part I B. of the Baseline GP, for non-storm water discharges that are covered by the permit. If unpermitted flows are found, they must be discontinued until an NPDES permit is issued or eliminated.

To check for non-storm water discharges, one of three dry weather tests may be used: (1) visual inspection, (2) plant schematic review, and (3) dye testing.

- (1) The easiest method is to observe all discharge points during dry weather. While storm water drainage may continue for three or more days after a rain, the discharge point should be dry during extended dry weather, except for areas where high ground water recharge where one of the other two tests may be performed.
- (2) An accurate sewer schematic shows potential interconnections with the storm water drainage system. Be sure to investigate where the floor drains discharge.
- (3) A dye is released into either the sanitary or process wastewater system and the storm water drainage examined for discoloration.

If storm water mixes with process wastewater one should identify type of treatment and whether this is covered under an NPDES or other discharge permit.

<p>Routine Visual Site Inspections Baseline Permit, ACT 5, T-8 (9)</p>
<p>The SWPPP shall describe the policy and procedures for routine visual site inspections, including frequencies and areas to be inspected. The frequency of inspections shall be performed as often as needed but no less than once monthly.</p>

Routine visual inspections are meant to be a routine look-over of the facility to identify conditions, which may give rise to contamination of storm water runoff. Routine inspections may also include routine observations of a process or piece

of equipment to ensure proper operation. Visual inspections are also a way to confirm that control measures are in place and working. They may be done during a storm event.

Areas to be inspected should include:

- areas scheduled for preventive maintenance;
- areas where spills and leaks have occurred in the past;
- material storage areas (tank farms, drum storage);
- outdoor material processing areas;
- equipment areas;
- material handling areas (e.g., loading, unloading, transfer);
- waste generation, storage, treatment and disposal areas.

An effective stormwater inspection program must have periodic visual assessments of the stormwater discharging from your facility. Visual assessments are conducted on samples taken during a storm event, and require that you make observations of the stormwater sample in order to qualitatively assess the nature of your discharge based on several visual parameters. This requires that you collect a stormwater sample in a clean, clear jar and look at the sample in a well-lit area. Generally, a sample must be collected from each stormwater discharge location associated with industrial activity. The purpose of conducting visual assessments is to make sure that stormwater discharges are free from objectionable characteristics (i.e., pollutants you can see). Should you observe objectionable characteristics, you should backtrack upstream from the sample collection location to identify potential sources of pollutants.

If a facility already has a routine surveillance program, one could consider expanding it to include this inspection(s). For example, if a facility has a security surveillance program, security personnel can be trained to perform the visual inspection. Such employees should be properly trained, familiar with the SWPPP and knowledgeable about proper recordkeeping and reporting procedures.

Document all inspections. What areas were inspected, the inspector, the date and time, what problems were found, and what corrective steps were taken, including who was notified, should be recorded. These records should be kept with the SWPPP.

Stormwater Management Baseline Permit, ACT 5, T-9 (10)
The SWPPP should provide for the management of storm water volume through its diversion, infiltration, storage or re-use.

**Non-Storm Water Discharge Management
Baseline Permit, ACT 5, T-9 (11)**

The SWPPP must identify any allowable non-storm water discharges identified in ACT 2, T-3. Non-storm water discharges should be eliminated or reduced to the extent feasible. The SWPPP must identify and ensure the implementation of appropriate Best Management Practices (BMPs) for the non-storm water component of the discharge.

Certain non-storm water discharges are allowable under this permit. In order for these discharges to be allowed, the allowable non-storm water discharges must be identified and appropriate controls must be addressed and implemented to prevent or mitigate any pollutants from entering State waters.

Allowable non-storm water discharges identified in the permit include:

- Discharges from fire-fighting activities
- Fire hydrant flushing
- Water used to control dust
- Potable water including uncontaminated water line flushing
- Routine external building wash down that does not use detergents
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless remediated) and where detergents are not used
- Uncontaminated air conditioning or compressor condensate
- Uncontaminated ground water or spring water
- Foundation or footing drains where flows are not contaminated with process materials such as solvents
- Uncontaminated excavation dewatering
- Landscape irrigation
- Water used to wash vehicles where detergents are not used

SITE INSPECTION AND SWPPP EVALUATION

Annual Comprehensive Site Inspection and SWPPP Evaluation Baseline Permit, ACT 8, S-2

During coverage under this permit, all areas contributing to storm water discharges associated with industrial activity must be inspected as often as needed but no less than once annually. The inspection must verify the description of potential pollutant sources and the implementation of management controls. The evaluation must determine whether the SWPPP adequately minimizes pollutant loadings, is being properly implemented in accordance with the terms of this permit and whether additional controls measures are needed.

The designated inspector(s)/evaluator(s) should be familiar with all operations and the SWPPP goals and requirements. They should have direct access to management. The purpose of the inspection is to verify that the list of potential pollutant sources, the plan drainage map, and controls identified in the plan are accurate, up to date, in place, maintained and working in accordance with the SWPPP. The purpose of SWPPP evaluation is to determine whether the SWPPP adequately minimizes pollutant loadings, is being properly implemented in accordance with the terms of this permit and whether additional controls measures are needed. The Annual Comprehensive Site Inspection and SWPPP Evaluation Form is provided in the Baseline Forms Package, which can be found on MDEQ's website at:

[http://www.deq.state.ms.us/MDEQ.nsf/pdf/epd_Baseline_Forms_Package/\\$File/BASELINE_FORMS_PACKAGE.pdf?OpenElement](http://www.deq.state.ms.us/MDEQ.nsf/pdf/epd_Baseline_Forms_Package/$File/BASELINE_FORMS_PACKAGE.pdf?OpenElement)

The inspector should:

- determine if all storm water pollution prevention measures are accurately identified in the plan, in place, maintained and working properly;
- determine if additional or alternative control measures are required
- document findings;
- complete needed SWPPP modifications.

RECORDKEEPING AND REPORTING

Plan Amendment Baseline Permit, ACT 7, S-1 (4).

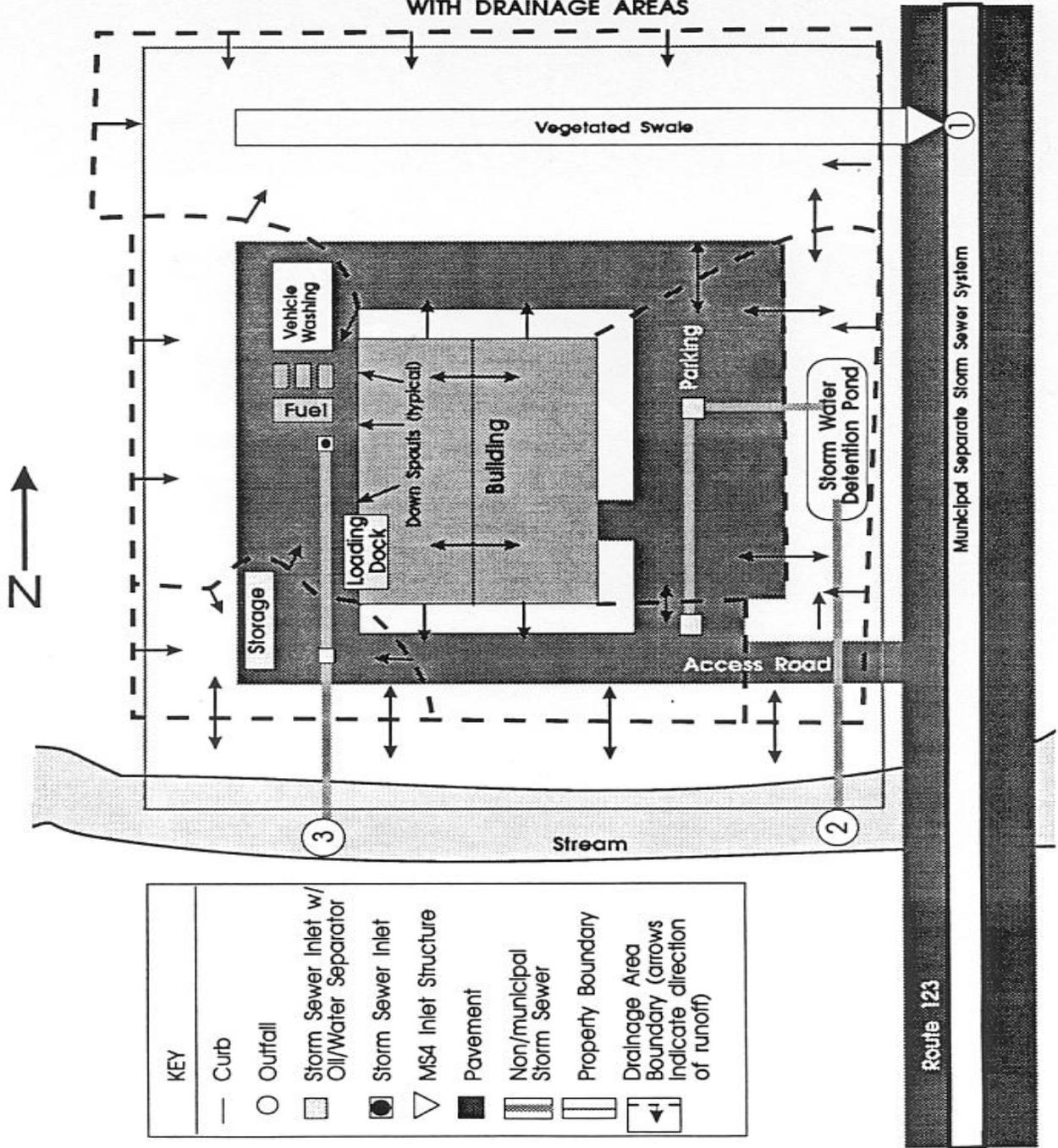
The coverage recipient shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which may increase the discharge of pollutants to State waters or the SWPPP proves to be ineffective in controlling storm water pollutants, and shall submit it to the Permit Board within 30 days of amendment.

For example, if a regulated facility begins to use a new chemical, proper handling procedures should be incorporated into the plan. The facility may also decide to change the plan because a BMP has proven to be ineffective or a construction activity is proposed.

Retention of Records Baseline Permit, ACT11, S-2

All records, reports and information resulting from activities required by this permit shall be retained for a period of at least 3 years from the date of the BNOI submittal. The Annual Comprehensive Site Inspection and SWPPP Evaluation must be documented on copies of the Annual Inspection Report and Certification Form provided in the Baseline Forms Package and be kept with the SWPPP.

**FIGURE 1 - EXAMPLE SITE MAP
WITH DRAINAGE AREAS**



COMMON BEST MANAGEMENT PRACTICES (BMPs)

The following BMP guidance is presented in a question and answer format. By answering these questions, you will be able to quickly identify source controls or recycling BMPs that are suitable for your facility. The BMPs suggested are relatively easy to use, inexpensive, and often are effective in removing the source of storm water contaminants. This is by no means a comprehensive list of BMPs, rather they are a few of the more typical ones. The following BMPs are typical of procedures required to reduce the pollution content of a storm water discharge

#1 BMP's FOR FUELING STATIONS

This guidance is for outdoor fueling operations or fueling areas where leaks or spills could contaminate storm water. When storm water mixes with fuel spilled or leaked onto the ground, it becomes polluted. The following questions will help you identify activities that can reduce or eliminate storm water contamination from fueling stations.

Q. Have you installed spill and overfill prevention equipment?

Fuel overflows during storage tank filling are a major source of spills. Overflows can be prevented. Watch the transfer constantly to prevent overfilling and spilling. Overfill prevention equipment automatically shuts off flow, restricts flow, or sounds an alarm when the tank is almost full. Federal regulations require overfill prevention equipment on all Underground Storage Tanks (USTs.)

Fuel Station Activities That Can Contaminate Storm Water:
<ul style="list-style-type: none">• Spills and leaks that happen during fuel or oil delivery• Spills caused by "topping off" fuel tanks• Allowing rainfall on the fuel area or storm water to run onto the fuel area• Hosing or washing down the fuel area• Leaking storage tanks

Q. Are vehicle fuel tanks often "topped off"?

Gas pumps automatically shut off when the vehicle fuel tank is almost full to prevent spills. Trying to completely fill the tanks or topping off the tank often results in overfilling the tank and spilling fuel. Discourage topping off by training employees and posting signs.

Q. Have you taken steps to protect fueling areas from rain?

Fueling areas can be designed to minimize spills, leaks, and incidental losses of fuel, such as vapor loss, from coming into contact with rainwater:

- Build a roof over the fuel area.
- Pave the fuel area with concrete instead of asphalt. Asphalt soaks up fuel or can be slowly dissolved by fuel, engine fluids, and other organic liquids. Over time, the asphalt itself can become a source of storm water contamination.

Q. Is run-on to the fueling area minimized?

Run-on is storm water generated from other areas that flows or "runs on" to your property or site. Run-on flowing across fueling areas can wash contaminants into storm drains. Run-on can be minimized by:

- Grading, berming, or curbing the area around the fuel site to direct run-on away from the fuel area
- Locating roof downspouts so storm water is directed away from fueling areas
- Using valley gutters to route storm water around fueling area.

Q. Are oil/water separators or oil and grease traps installed in storm drains in the fueling area?

Oil/water separators and oil and grease traps are devices that reduce the amount of oil entering storm drains. These devices should be installed and routinely inspected, cleaned, and maintained.

Q. Is the fueling area cleaned by hosing or washing?

Cleaning the fueling area with running water should be avoided because the wash water will pick up fuel, oil, and grease and make it storm water. Consider using a damp cloth on the pumps and a damp mop on the pavement rather than a hose. Check with your local sewer authority about any treatment required before discharging the mop water or wash water to the sanitary sewer.

Q. Do you control petroleum spills?

Spills should be controlled immediately. Small spills can be contained using sorbent material such as kitty litter, straw, or sawdust. Do not wash petroleum spills into the storm drain or sanitary sewer.

Employee Involvement Is The Key
Getting employees interested in reducing waste generation is the key to a successful SWPPP. Discuss pollution prevention with your employees. They are most familiar with the operations that generate wastes and may have helpful waste reduction suggestions. Consider setting up an employee reward program to promote pollution prevention.

Q. Are employees aware of ways to reduce contamination of storm water at fueling stations?

Storm water contamination for fueling operations often occurs for small actions such as topping off fuel tanks, dripping engine fluids, and hosing down fuels areas. Inform employees about ways to eliminate or reduce storm water contamination.

Q. Where does the water drain from your fueling area?

In many cases, wash water and storm water in fueling areas drain directly to the storm sewer without adequate treatment. Some types of oil/water separators installed at these locations can provide treatment to discharges from oil contaminated pavements, but this equipment is only effective when properly maintained (i.e., cleaned frequently). If discharges from fueling or other high risk areas at your facility drain to a sanitary sewer system, you should inform your local POTW.

SUMMARY OF FUELING STATION BMPs
<ul style="list-style-type: none">• Consider installing spill and overflow protection.• Discourage topping off of fuel tanks.• Reduce exposure of the fuel area to storm water.• Use dry cleanup methods for the fuel area.• Use proper petroleum spill control.• Encourage employee participation.

#2

BMPs For Vehicle and Equipment Maintenance

Storm water runoff from vehicle and equipment maintenance areas can become polluted by a variety of contaminants such as solvents and degreasing products, waste automotive fluids, oils and greases, acids, and caustic wastes.

The following questions will help you find sources of storm water contamination from vehicle and equipment maintenance operations and will help you choose BMPs that can reduce or eliminate these sources.

Q. Are parts cleaned at your facility?

Parts are often cleaned using solvents such as trichloroethylene, 1,1,1-trichloroethane or methylene chloride. Many of these cleaners are harmful and must be disposed of as a hazardous waste. Cleaning without using liquid cleaners whenever possible reduces waste. Scrape parts with a wire brush, or use a bake oven if one is available. Prevent spills and drips of solvents and cleansers to the shop floor. Do all liquid cleaning at a centralized station so the solvents and residues stay in one area. If you dip parts in liquid, remove them slowly to avoid spills. Locate drip pans, drain boards, and drying racks to direct drips back into a sink or fluid holding tank for reuse.

ACTIVITIES THAT CAN CONTAMINATE STORM WATER
Engine Repair and service: <ul style="list-style-type: none">• Parts cleaning• Shop cleanup• Spilled fuel, oil, or other materials• Replacement of fluids (oil, oil filters, hydraulic fluids, transmission fluid, and radiator fluids).
Outdoor vehicle and equipment storage and parking: <ul style="list-style-type: none">• Dripping engine and automotive fluids from parked vehicles and equipment.
Disposal of materials or process wastes <ul style="list-style-type: none">• Greasy rags• Oil filters• Air filters• Batteries• Spent coolant, degreasers, etc.

Q. Have you looked into using nontoxic or less toxic cleaners or solvents?

If possible, eliminate or reduce the number or amount of hazardous materials and waste by substituting non-hazardous or less hazardous materials. For example:

- Use noncaustic detergents instead of caustic cleaning agents for parts cleaning (ask your supplier about alternative cleaning agents).
- Use detergent-based or water-based cleaning systems in place of organic solvent degreasers. Wash water may require treatment before it can be discharged to the sanitary sewer. Contact your local sewer authority for more information.
- Replace chlorinated organic solvents (1,1,1-trichloroethane, methylene chloride, etc.) with nonchlorinated solvents. Nonchlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of but are by no means harmless themselves. Check the list of active ingredients to see whether it contains chlorinated solvents.
- Choose cleaning agents that can be recycled.

Contact your supplier, trade journal or the MDEQ, Environmental Resource Center for more waste minimization ideas.

Q. Are work areas and spills washed or hosed down with water?

Clean up leaks, drips, and other spills without large amounts of water. Use rags for small spills, a damp mop for general cleanup, and dry absorbent material for larger spills. Consider the following BMPs:

- Avoid hosing down your work areas.
- Collect leaking or dripping fluids in drip pans or containers. If different liquids are kept separate, the fluids are easier to recycle.

- Keep a drip pan under the vehicle that might leak while you work on it to keep splatters or drips off the shop floor.
- Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around
- Locate waste and recycling drums in properly controlled areas of the yard, preferably areas with a concrete slab and secondary containment.

Q. Are spills or materials washed or poured down the drain?

Do not pour liquid waste to floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer. Be sure to dispose of these materials properly or find opportunities for reuse and recycling. If you are unsure of how to dispose of chemical wastes, contact Mississippi Office of Pollution Control, Hazardous Waste Section or the RCRA hotline at 1-800-424-9346. Post signs at sinks to remind employees, and paint stencils at outdoor drains to tell customers and others not to pour wastes down drains.

Q. Are oil filters completely drained before recycling or disposal?

Oil filters disposed of in trash cans or dumpsters can leak oil and contaminate storm water. Place the oil filter in a funnel over the waste oil recycling or disposal collection tank to drain excess oil before disposal. Oil filters can be crushed and recycled. Ask your oil supplier or recycler about recycling oil filters.

Q. Are incoming vehicles and equipment checked for leaking oil and fluids?

If possible, park vehicles indoors or under a roof so storm water does not contact the area. If you park vehicles outdoors while they await repair, watch them closely for leaks.

Put pans under leaks to collect fluids for proper recycling or disposal. Keeping leaks off the ground reduces the potential for storm water contamination and reduces cleanup time and costs. If the vehicle or equipment is to be stored outdoors, oil and other fluids should be drained first.

Designate a special area to drain and replace motor oil, coolant, and other fluids, where there are no connections to the storm drain or the sanitary sewer and drips and spills can be easily cleaned up.

Q. Are wrecked vehicles or damaged equipment stored onsite?

Be especially careful with wrecked vehicles, whether you keep them indoors or out, as well as with vehicles kept onsite for scrap or salvage. Wrecked or damaged vehicles often drip oil and other fluids for several days. Listed on the following page are some BMPs for scrap or salvage vehicles.

- As the vehicles arrive, place drip pans under them immediately, even if you believe that all fluids have leaked out before the car reaches your shop.
- Build a shed or temporary roof over areas where you park cars awaiting repairs or salvage, especially if you handle wrecked vehicles. Build a roof over vehicles you keep for parts.
- Drain all fluids, including air conditioner coolant, from wrecked vehicles and "parts" cars. Also drain engines, transmissions, and other used parts.
- Store cracked batteries in a nonleaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

BATTERY ACID SPILLS:

Handle spilled acid from broken batteries with care. If you use baking soda to neutralize spilled acid during cleanup, remember that the residue is still dangerous to handle and must be disposed of as a hazardous waste because it may contain lead and other contaminants.

Q. Do you recycle any of these materials?

- Degreasers
- Used oil or oil filters
- Antifreeze
- Cleaning solutions
- Automotive batteries
- Hydraulic fluid.

All of these materials can be either recycled at your facility or sent offsite for recycling. Some recycling options, ranked by level of effort required, follow. Contact the MDEQ, Environmental Resource Center for a list of recyclers in your area at 601/961-5171.

Least Effort:
<ul style="list-style-type: none"> • Arrange for collection and transportation of car batteries, used oil and other fluids, cleaning solutions, and degreasers to a commercial recycling facility. This requires that you separate wastes and store them until the recycling company picks them up. • "Dirty" solvent can be reused. Presoak dirty parts in used solvent before cleaning the parts in fresh solvent.
Moderate Effort:
<ul style="list-style-type: none"> • Used oil, antifreeze, and cleaning solutions can be recycled onsite using a filtration system that removes impurities and allows the fluid to be reused. Filtration systems are commercially available.
Most effort:
<ul style="list-style-type: none"> • Install an onsite solvent recovery unit. If your facility creates large volumes of used solvents, you may consider purchasing or leasing an onsite still to recover the solvent for reuse.

Q. Can you reduce the number of different solvents used?

Reducing the number of solvents makes recycling easier and reduces hazardous waste management cost. Often, one solvent can perform a job as well as two different solvents.

EMPLOYEE INVOLVEMENT IS THE KEY:
<p>Getting employees interested in reducing waste generation is the key to a successful SWPPP. Discuss pollution prevention with your employees. They are most familiar with the operations that generate waste and may have helpful waste reduction suggestions. Consider setting up an employee reward program to promote pollution prevention.</p>

Q. Are wastes separated?

Separating wastes allows for easier recycling and may reduce treatment costs. Keep hazardous and nonhazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents (like 1,1,1-trichloroethane) separate from nonchlorinated solvents (like kerosene and mineral spirits). Proper labeling of all wastes and materials will help accomplish this goal.

Q. Do you use recycled products?

Many products made of recycled (i.e., refined or purified) materials are available. Engine oil, transmission fluid, antifreeze, and hydraulic fluid are available in recycled form. Buying recycled products supports the market for recycled materials.

SUMMARY OF VEHICLE MAINTENANCE AND REPAIR BMPs
<ul style="list-style-type: none"> • Check for leaking oil and fluids. • Use nontoxic or low-toxicity materials. • Drain oil filters before disposal or recycling. • Don't pour liquid waste down drains. • Recycle engine fluids and batteries. • Segregate and label wastes. • Buy recycled products.

BMPs FOR PAINTING OPERATIONS

Q. Is care taken to prevent paint wastes from contaminating storm water runoff?

Use tarps and vacuums to collect solid wastes produced by sanding or painting. Tarps, drip pans, or other spill collection devices should be used to collect spills of paints, solvents, or other liquid materials. These wastes should be disposed of properly to keep them from contaminating storm water.

PAINTING ACTIVITIES THAT CAN CONTAMINATE STORM WATER

- | |
|---|
| <ul style="list-style-type: none">• Painting and paint removal• Sanding or paint stripping• Spilled paint or paint thinner |
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Q. Are wastes from sanding contained?

Prevent paint chips from coming into contact with storm water. Paint chips may contain hazardous metallic pigments or biocides. You can reduce contamination of storm water with paint dust and chips from sanding by the following practices:

- Avoid sanding in windy weather when possible.
- Enclose outdoor sanding areas with tarps or plastic sheeting. Be sure to provide adequate ventilation and personal safety equipment. After sanding is complete, collect the waste and dispose of it properly.
- Keep workshops clean of debris and grit so that the wind will not carry any waste into areas where it can contaminate storm water.
- Move the activity indoors if you can do so safely.

Q. Are parts inspected before painting?

Inspect the part or vehicle to be painted to ensure that it is dry, clean, and rust free. Paint sticks to dry, clean surfaces, which in turn means a better, longer-lasting paint job.

Q. Are you using painting equipment that creates little waste?

As little as 30 percent of the paint may reach the target from conventional airless spray guns; the rest is lost as overspray. Paint solids from overspray are deposited on the ground where they can contaminate storm water. Other spray equipment that delivers more paint to the target and less overspray should be used:

- Electrostatic spray equipment
- Air-atomized spray guns
- High-volume/low-pressure spray guns
- Gravity-feed guns.

Q. Are employees trained to use spray equipment correctly?

Operator training can reduce overspray and minimize the amount of paint solids that can contaminate storm water. Correct spraying techniques also reduce the amount of paint needed. Avoid spraying on windy days. When spraying outdoors, use a drop cloth or ground cloth to collect and dispose of overspray.

Q. Do you recycle paint, paint thinner, or solvents?

These materials can either be recycled at the facility or sent offsite for recycling. Some recycling options ranked by the level of effort required follow.

Least Effort:
<ul style="list-style-type: none"> • Dirty solvent can be reused for cleaning dirty spray equipment and parts before equipment is cleaned in fresh solvent. • Give small amounts of left-over paint to the customer for touchup.
Moderate Effort:
<ul style="list-style-type: none"> • Arrange for collection and transportation of paints, paint thinner, or spent solvents to a commercial recycling facility.
Most Effort:
<ul style="list-style-type: none"> • Install an onsite solvent recovery unit. If your facility creates large volumes of used solvents, paint, or paint thinner, you may consider buying or leasing an onsite still to recover used solvent for reuse.

Q. Are wastes separated?

Separating waste makes recycling easier and may reduce treatment cost. Keep hazardous and nonhazardous wastes separate, and keep chlorinated solvents (like 1,1,1-trichloroethane) separate from nonchlorinated solvents (like petroleum distillate and mineral spirits). Check the materials data sheet for ingredients, or talk with your waste hauler recycling company or the MDEQ, Environmental Resource at 601-961-5171 to learn which waste types can be stored together and which should be separated.

Q. Can you reduce the number of solvents you use?

Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can do a job as well as two different solvents.

Q. Do you use recycled products?

Many products made of recycled (i.e., refined or purified) materials are available. Buying recycled paints, paint thinner, or solvent products helps build the market for recycled materials.

SUMMARY OF PAINTING OPERATION BMPs
<ul style="list-style-type: none"> • Inspect parts prior to painting. • Contain sanding wastes. • Prevent paint waste from contacting storm water. • Proper interim storage of waste paint, solvents, etc. • Evaluate efficiency of equipment. • Recycle paint, paint, paint thinner, and solvents. • Segregate wastes. • Buy recycled products.

BMPs FOR VEHICLE AND EQUIPMENT WASHING

Wash water can contain high concentrations of oil and grease, phosphates, and high suspended solid loads. Vehicle wash water is considered to be a process wastewater and needs to be covered by an NPDES permit.

Q. Have you considered using phosphate-free biodegradable detergents?

Phosphates, which are plant nutrients, can cause excessive growth of nuisance plants in water when they enter lakes or streams in wash water. Some States ban the use of detergents containing high amounts of phosphates. Contact your supplier about phosphate-free biodegradable detergents that are available on the market.

VEHICLE AND EQUIPMENT WASHING ACTIVITIES THAT CAN CONTAMINATE STORM WATER:

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| <ul style="list-style-type: none">• Outside equipment or vehicle cleaning (washing or steam cleaning)• Wash water discharged directly to the ground or storm water drain |
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Q. Are vehicles, equipment, or parts washed over the open ground?

Used wash water contains high concentrations of solvents, oil and grease, detergents, and metals. Try not to wash parts or equipment outside. Washing over impervious surfaces like concrete, blacktop, or hardpacked dirt allows wash water to enter storm drains directly or deposits contaminants on the ground, where they are washed into storm drains when it rains. Washing over pervious ground such as sandy soils potentially can pollute ground water. Small parts and equipment washing should be done over a parts washing container where the wash water can be collected and recycled or disposed of properly.

If you are washing large equipment or vehicles, and have to wash outside, designate a specific area for washing. This area should be bermed to collect the wastewater and graded to direct the wash water to a treatment facility. Consider filtering and recycling vehicle wash water. If recycling is not practical, the wastewater can be discharged to the sanitary sewer. Contact the Mississippi Office of Pollution Control, Environmental Permits Division to find out whether treatment is required before wash water is discharged to the sewer at 601-961-5171.

EMPLOYEE INVOLVEMENT IS THE KEY:

<p>Getting employees interested in reducing waste is the key to a successful storm water pollution prevention plan. Discuss pollution prevention with your employees. They are most familiar with the operations that generate wastes and may have helpful waste reduction suggestions. Consider setting up an employee award program to promote pollution prevention.</p>

SUMMARY OF VEHICLE AND EQUIPMENT WASHING BMPs
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|---|
| <ul style="list-style-type: none">• Consider use of phosphate-free detergents.• Use designated cleaning areas.• Consider recycling wash water. |
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BMPs FOR LOADING AND UNLOADING MATERIALS

Q. Are tank trucks and material delivery vehicles located where spills can be contained?

Loading/unloading equipment and vehicles should be located so that leaks can be contained in existing containment and flow diversion system.

Q. Is loading/unloading equipment checked regularly for leaks?

Check vehicles and equipment regularly for leaks, and fix any leaks promptly. Common areas for leaks are valves, pumps, flanges, and connections. Look for dust or fumes. These are signs that material is being lost during unloading/loading operations.

LOADING AND UNLOADING ACTIVITIES THAT CAN CONTAMINATE STORM WATER:
<ul style="list-style-type: none">• Pumping of liquids or gases from barge, truck or rail car to a storage facility or vice versa• Pneumatic transfer of dry chemicals to or from the loading and unloading vehicles• Transfer by mechanical conveyor system• Transfer of bags, boxes, drums, or other containers by forklift, trucks, or other material handling equipment

Q. Are loading/unloading docks or areas covered to prevent exposure to rainfall?

Covering loading and unloading areas, such as building overhangs at loading docks, can reduce exposure of materials, vehicles, and equipment to rain.

Q. Are loading/unloading areas designed to prevent storm water run-on?

Run-on is storm water created from other areas that flows or "runs on" to your property or site. Run-on flowing across loading/unloading areas can wash contaminants into storm drains. Run-on can be minimized by:

- Grading, berming, or curbing the area around the loading area to direct run-on away from the area
- Positioning roof down spouts so storm water is directed away from loading sites and equipment and preferably to a grassy or vegetated area where the storm water can soak into the ground.

SUMMARY OF LOADING/UNLOADING OPERATIONS BMPs
<ul style="list-style-type: none">• Contain leaks during transfer.• Check equipment regularly for leaks.• Limit exposure of material to rainfall.• Prevent storm water run-on.

BMPs FOR LIQUID STORAGE IN ABOVE-GROUND TANKS

Q. Do storage tanks contain liquid hazardous materials, hazardous wastes, or oil?

Storage of oil and hazardous materials must meet specific standards set by Federal laws. These standards include SPCC plans, secondary containment, installation, integrity and leak detection monitoring, and emergency preparedness plans. Federal regulations set specific standards for preventing run-on and collecting runoff from hazardous waste storage, disposal, or treatment areas. These standards apply to container storage areas and other areas used to store, treat, or dispose of hazardous waste. If the collected storm water is a hazardous waste, it must be managed as a hazardous waste in accordance with all applicable Federal environmental regulations. To find out more about storage requirements, call the toll-free EPA RCRA hotline at 1-800-424-9346.

**THE MOST COMMON CAUSES OF
UNINTENTIONAL RELEASES FROM TANKS:**

- External corrosion and structural failure
- Installation problems
- Spills and overfills due to operator error
- Failure of piping systems (pipes, pumps, flanges, couplings, hoses, and valves)
- Leaks or spills during pumping of liquids or gases from barges, trucks, or rail cars to a storage facility or vice versa

Q. Are operators trained in correct operation procedures and safety activities?

Well-trained employees can reduce human errors that lead to accidental releases or spills.

Q. Do you have safeguards against accidental releases?

Engineered safeguards can help prevent operator errors that may cause the accidental release of pollutants. Safeguards include:

- Overflow protection devices on tank systems to warn the operator or to automatically shut down transfer pumps when the tank reaches full capacity
- Protective guards around tanks and piping to prevent vehicle or forklift damage
- Clearly tagging or labeling of valves to reduce human error.

Q. Are the tank systems inspected and is tank integrity tested regularly?

Visually inspect the tank system to identify problem areas before they lead to a release. Correct any problems or potential problems as soon as possible. An audit of a newly installed tank system by a registered and specially trained professional engineer can identify and correct potential problems such as loose fittings, poor welding, and improper or poorly fitted gaskets. After installation, have operators visually inspect the tank system on a routine basis. Areas to inspect include tank foundations, connections, coatings, tank walls, and the piping system. Look for corrosion, leaks, straining of tank support structures from leaks, cracks, scratches in protective coatings, or other physical damage that may weaken the tank system. Integrity testing should be done periodically by a qualified professional.

Q. Are tanks bermed or surrounded by a secondary containment system?

A secondary containment system around both permanent and temporary tanks allows leaks to be more easily detected and contains spills or leaks. Methods include berms, dikes, liners, vaults, and double-walled tanks.

**SUMMARY OF BMPs FOR LIQUID STORAGE IN
ABOVE-GROUND TANKS**

- Comply with applicable State and Federal laws.
- Properly train employees.
- Install safeguards against accidental releases.
- Routinely inspect tanks and equipment.
- Consider installing secondary containment.

#7 **BMPs FOR INDUSTRIAL WASTE MANAGEMENT AREAS AND OUTSIDE MANUFACTURING**

Activities such as rock grinding or crushing, painting or coating, grinding or sanding, decreasing or parts cleaning, or operations that use hazardous materials are sources of storm water pollution. Waste spilled, leaked, or lost from waste management areas or outside manufacturing activities may build-up in soils or on other surfaces and be carried away by rainfall runoff. There is also a potential for liquid wastes from lagoons or surface impoundments to overflow to surface waters or soak the soil where they can be picked up by storm water runoff. Possible storm water contaminants include toxic compounds, oil and grease, paints or solvents, heavy metals, and high levels of suspended solids.

The best way to reduce the potential for storm water contamination from both waste management areas and outside manufacturing activities is to reduce the amount of waste that is created and, consequently, the amount that must be stored or treated. For more information on waste reduction contact the Mississippi Office of Pollution Control, Waste Minimization Section at 601-961-5171.

Q. Have you looked for ways to reduce waste at your facility?

The first step to reducing wastes is to assess activities at your facility. The assessment is designed to find situations at your facility where you can eliminate or reduce waste generation, emissions, and environmental damage. The assessment involves steps very similar to those used to develop your SWPPP, such as collecting process-specific information; setting pollution prevention targets; and developing, screening, and selecting waste reduction options for further study. Starting a waste reduction program at your facility has many potential benefits. Some of these benefits are direct (e.g., cost savings from reduced raw material use), while others are indirect (e.g., avoided waste disposal fees).

EPA has developed a series a series of industry-specific pollution prevention and waste minimization guidance manuals. The manuals contain steps for assessing your facility's opportunity for reducing waste and describe source reduction and recycling choices. A listing of the manuals or the manuals can be obtained by contacting EPA's Pollution Prevention Information Clearinghouse (PPIC) at (202) 260-1023.

INDUSTRIAL WASTE MANAGEMENT ACTIVITIES OR AREAS THAT CAN CONTAMINATE STORM WATER:

- **Landfills**
- **Waste piles**
- **Wastewater and solid waste treatment and disposal:**
 - **Waste Pumping**
 - **Additions of treatment chemicals**
 - **Mixing**
 - **Aeration**
 - **Clarification**
 - **Solids dewatering**
- **Land application**

Q. Have you considered waste reduction BMPs?

There are many different types of BMPs that can help eliminate or reduce the amount of industrial waste generated at your facility. Some of these BMPs are listed below, information on these BMPs can be obtained by contacting PPIC at (202) 260-1023.

- Production planning and sequencing
- Process or equipment modification
- Raw material substitution or elimination
- Loss prevention and housekeeping
- Waste segregation and separation
- Closed-loop recycling
- Training and supervision
- Reuse and recycling.

**OUTSIDE MANUFACTURING ACTIVITIES
OR SITUATIONS THAT CAN CONTAMINATE STORM WATER:**

- Processes or equipment that generate dust, vapors, or emissions
- Outside storage of hazardous materials or raw materials
- Dripping or leaking fluids from equipment or processes
- Liquid wastes discharged directly onto the ground or into the storm sewer

Q. Are industrial waste management and outside manufacturing areas checked often for spills and leaks?

Check waste management areas for leaking containers or spills. Look for containers that are rusty, corroded, or damaged. Transfer wastes from these damaged containers into safe containers. Close the lids on dumpsters to prevent rain from washing wastes out of holes or cracks in the bottom of the dumpster. In outside manufacturing areas, look for leaking equipment (e.g., valves, lines, seals, or pumps) and fix leaks promptly. Inspect rooftop and other outdoor equipment (e.g., HVAC devices, air pollution control devices, transformers, piping, etc.) for leaks or dust concentrations.

Q. Are industrial waste management areas or manufacturing activities covered, enclosed, or bermed?

The best way to avoid contaminating storm water from existing waste management and manufacturing areas is to prevent storm water run-on or rain from entering or contacting these areas. This can be done by:

- Preventing direct contact with rain
- Moving the activity indoors after ensuring that all safety concerns such as fire hazard and ventilation are addressed
- Covering the area with a permanent roof
- Covering waste piles with a temporary covering material such as a reinforced tarpaulin, polyethylene, polyurethane, polypropylene, or hypalon
- Minimizing storm water run-on by enclosing or berming the area.

Q. Are vehicles used to transport wastes to the land disposal or treatment site equipped with anti-spill equipment?

Transport vehicles equipped with spill prevention equipment. Examples include:

- Vehicles equipped with baffles for liquid wastes
- Trucks with sealed gates and spill guards for solid wastes
- Trucks with tarps.

Q. Do you use loading systems that minimize spills and fugitive losses such as dust or mists?

Wastes lost during loading or unloading can contaminate storm water. Vacuum transfer systems minimize waste loss.

Q. Are sediments or wastes prevented from being tracked offsite?

Wastes and sediments tracked offsite can end up on streets where they are picked up by storm water runoff. This can be avoided by using vehicles with specially designed tires, washing vehicles in a designated area before they leave the site, and controlling the wash water.

**DO YOU OWN OR OPERATE A HAZARDOUS WASTE
TREATMENT, STORAGE, AND DISPOSAL FACILITY?**

Federal and State laws establish strict standards for managing solid and hazardous wastes. If you are not sure whether you own or operate a hazardous waste treatment, storage, or disposal facility, call the toll-free EPA RCRA hotline at 1-800-424-9346. Federal regulations contain specific standards about preventing run-on and collecting runoff from hazardous waste storage,

disposal, or treatment areas.

Q. Is storm water runoff minimized from the land disposal site?

Some precautions are detailed below.

- Choose the land application site carefully. Characteristics that help prevent runoff include slopes under 6 percent, permeable soils, a low water table, locations away from wetlands or marshes, and closed drainage systems.
- Avoid applying waste to the site when it is raining or when the ground is frozen or saturated with water. Grow vegetation on areas dedicated to land disposal to stabilize the soils and reduce the volume of surface water runoff.
- Erosion control techniques might include mulching and matting, filter fences, straw bales, diversion terracing, or sediment basins. For a detailed description of erosion control techniques contact the Mississippi Office of Pollution Control, Storm Water Section.
- Perform routine maintenance to ensure that erosion control or site stabilization measures are working.

**SUMMARY OF INDUSTRIAL WASTE MANAGEMENT AND
OUTSIDE MANUFACTURING BMPs**

- **Conduct a waste reduction assessment.**
- **Institute industrial waste source reduction and recycling BMPs**
- **Prevent runoff and run-on from contacting the waste management area.**
- **Minimize runoff from land application sites.**

BMPS FOR OUTSIDE STORAGE OF RAW MATERIALS, BY PRODUCTS, OR FINISHED PRODUCTS

Q. Are materials protected from rainfall, run-on, and runoff?

The best way to avoid contaminating storm water from outside material storage areas is to prevent storm water run-on or rain from coming in contact with the materials. This can be done by:

- Storing the material indoors.
- Covering the area with a roof.
- Covering the material with a temporary covering made of polyethylene, polyurethane, polypropylene, or Hypalon.
- Minimizing run-on by enclosing or building a berm around the area.

Q. What types of BMPs should be used old equipment storage areas (boneyards) that are exposed to storm water?

The outside accumulation of old equipment is strongly discouraged. However, if old equipment boneyards do exist, the following BMPs should be considered.

Prevent storm water from coming into contact with the materials by storing materials indoors, covering equipment storage areas with a roof or a temporary covering.

Minimize run-on by grading, berming or curbing to direct run-on away from the area. Locate roof downspouts so that storm water is directed away from area. Equipment should not have direct contact with the ground. Equipment storage areas should not be located in or adjacent to storm water conveyances.

Use oil/water separators to treat runoff from the area or oil booms to treat runoff from storage areas.

Oils, hydraulic and other fluids should be drained prior to the storage of equipment. Designate a special area to drain fluids. Transfer old fluids to proper waste recycling drums and locate recycling drums in roofed areas with a concrete slab and secondary containment.

Segregate materials for easier recycling. Recycle as much of the equipment as possible, especially used oil filters, batteries, empty drums, pallets, fluids, scrap metals and tires. Contact MDEQ’s Environmental Resource Center to obtain the “Mississippi Recycling Directory.”

Metals that contain lead, copper, arsenic, mercury, and selenium should be stored under roof.

Vegetative buffers should surround equipment storage areas.

ARE ANY OF THESE MATERIALS STORED OUTSIDE AREAS WHERE THEY CAN CONTAMINATE STORM WATER?
<ul style="list-style-type: none"> • Fuels • Raw materials • By-products • Intermediates • Final products • Process residuals

SUMMARY OF BMPs FOR OUTSIDE STORAGE OR RAW MATERIALS, BY-PRODUCTS, OR FINISHED PRODUCTS
Cover or enclose materials, recycle and/or treat runoff with oil/water separator or absorbents.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

For: _____
Facility Name

Facility Location

Under Mississippi's

_____ **Storm Water General NPDES Permit**
(Type of Permit: Baseline, Wood Treater, etc.)

Coverage No. MSR _____

SWPPP Manager: _____

Title: _____ **Telephone #:** _____

SWPPP Committee Members (list), if applicable:

I certify under penalty of law that the information submitted is, to the best of my knowledge, true, accurate and complete.

Signature

Date Signed

Printed Name

Title

LIST OF SIGNIFICANT SPILLS AND LEAKS

Worksheet #2b

Directions: Record below all significant spills and significant leaks of toxic or hazardous pollutants that have occurred at the facility as of July 14, 1992 (See page 5 of the guidance manual).

Date <small>(Month/day/Year)</small>	Spill or Leak <small>(S/L)</small>	Location <small>(as indicated on site map)</small>	Description	Response Procedure		Preventive Measures Taken <small>(Add additional sheets if necessary)</small>
			Type of Material	Amount of Material Recovered	Material Exposed to Storm Water <small>(Y/N)</small>	

NON-STORM WATER DISCHARGE EVALUATION AND CERTIFICATION

Worksheet #2c

Outfall No.	Date of Evaluation	Method Used to Test or Evaluate Discharge	If Evaluation is Impossible Give Reason	Is Non-Storm Water Being Discharged? (Yes/No)	List Likely Sources of Non-Storm Water Discharges	Person(s) Who Conducted the Test or Evaluation

CERTIFICATION

I certify under penalty of law that is, to the best of my knowledge and belief, true, accurate, and complete (see permit Part V.G.).

A. Name & Official Title (type or print)	B. Area Code and Telephone No.
C. Signature	D. Date Signed

EXISTING AND PROPOSED BMPs

Worksheet #3a

Instructions: List all identified actual and potential storm water pollution sources and describe existing management practices and proposed BMPs with implementation schedule.

Potential Pollution Sources	Existing BMPs	Proposed BMPs	Implementation Schedule
1.			
2.			
3.			
4.			

EMPLOYEE TRAINING

Worksheet #3b

Instructions: Describe the employee training program for your facility below. The program should, at a minimum, address spill prevention and response, good housekeeping, and material management practices. Provide a schedule for the training program and list the employees who attend training sessions.

Training Topics	Brief Description of Scheduled Training Program/Materials (e.g., film, seminar, staff meeting)	Proposed Frequency of Training (e.g., once per quarter)	Who will attend?
Spill Prevention And Response			
Good Housekeeping			
Material Management Practices			
Other Topics			